

over a long period of time. To do justice to the subject, one must not only be acquainted with the commoner forms of entozoa, but also, to some extent, with the rarer. The experimental method enables us to determine the origin and course of development of many forms, and helps us to discriminate between the harmless and baneful species. Systematic zoology, apart from its own abstractedly scientific value, is of great assistance in aiding our arrangement of the facts in a methodical and easily understood manner. A consideration of all the known facts relating to any one particular entozoon often permits us to state precisely to what extent the species is injurious to the human race as well as to the particular intermediary bearer. We are also frequently in a position to point out what circumstances are sure to increase, or, on the other hand, to decrease, the prevalence of any particular species. We can even go further than that, and show how certain forms may be entirely eradicated. At all events, we have it in our power both to diminish the number of human sufferers from entozootics, and to check, if not entirely to prevent, the invasion of these endemics. Substantial results of this kind being patent to all intelligent people, we can afford to disregard the policy of the ignorant who deride our labours. From researches such as these, the Linnean Society cannot legitimately withhold its sympathy, since a recognized department of natural-history science is thus made practically subservient to the public welfare. In the present case, moreover, this communication, though differing somewhat from the ordinary character of its received contributions, is, after all, only a continuation of my other papers which have already been honoured with the Society's approval.

Note on the "*Spiroptera sanguinolenta*" of Rudolphi, a Parasite found in the Heart of Dogs in China. By W. BAIRD, M.D., F.L.S. With an Account of the Occurrence of these Worms at Shanghai, by J. LAMPREY, M.D., 67th Regiment.

[Read May 2, 1867.]

AT the conclusion of Dr. Cobbold's paper on the Entozoa of the dog, read on the 18th of April, Dr. Lamprey called the attention of the Society to the fact that the dogs of China, both native and European, were peculiarly liable to the attack of a species of Entozoa, lodging in the heart. This worm has been referred

to the "*Spiroptera sanguinolenta*" of Rudolphi, a species which has already been noticed as existing in the heart of the dog. Since the reading of Dr. Cobbold's paper, Dr. Lamprey has kindly presented a series of specimens of these Entozoa to the British Museum. Upon examination, I found them to be of a much larger size than any of those recorded by Rudolphi, Dujardin, and Diesing. These authors agree in stating the length to be from 40 to 80 millims., about equal to from $1\frac{3}{4}$ to 3 inches. The specimens sent to the Museum were, many of them, at least 10 inches long, which would show that the habitation where they were found was favourable to the growth of these worms. Along with the specimens sent, Dr. Lamprey has kindly forwarded to me a short account of these parasites, written by him at Shanghai in 1865, which I thought might be interesting to lay before the Society.

Shanghai, July 1865.

The Entozoa were found mixed with clotted blood in the cavities of the ventricles of the heart, and extending through the openings of the valves, in the course of the pulmonary artery and aorta.

The hearts of native and foreign dogs living at Shanghai are invariably found to contain these Entozoa, which most probably have their origin in the ova of the *Ascarides* or *Trichiuris*, human excreta being the principal food of the native dog, and not disliked by the foreign dog however well fed. Tapeworm is a common accompaniment of this disease.

These Entozoa, *per se*, do not appear to interfere with the general functions of the body, so long as the animal is otherwise healthy. Sporting dogs work as usual without any impediment, and many are long-lived; but should dogs so infested be attacked with disease, such as fever or inflammation of the lungs, the Entozoa become a serious embarrassment to the circulation, and no doubt materially aid in causing a fatal termination to the disease with which they are attacked.

These Entozoa have not been as yet discovered in the human heart, either of Chinese or of Europeans living in China.

P.S. In 1866, when at the Cape of Good Hope, I lost a dog which I brought from China. This dog was attacked with fever, and died; and on examination of his body I found a large bundle of these Entozoa in the cavities of the heart. I had examined other dogs which died of the same fever at the Cape, and no Entozoa were found in their hearts; these dogs had not been in China.

J. L.